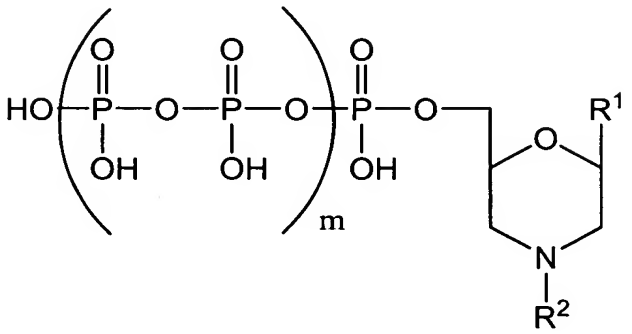
That which is claimed is:

1. A morpholino-nucleotide of formula I:



(I)

wherein R^1 represents a nucleic base, m is 0 or 1, and R^2 is selected from the group consisting of:

$-(CH_2)_n-NH_2$	$-(CH_2)_n-SH$
$-(CH_2)_n-COOH$	$-(CH_2)_n-OH$
$-(CH_2)_n-NH-R^3$	$-(CH_2)_n-SR^3$
$-(CH_2)_n-CO-R^3$ and	$-(CH_2)_n-OR^3$

in which n is an integer ranging from 1 to 12 and R^3 is selected from the group consisting of a label, a protein, an enzyme, a fatty acid, and a peptide.